

WHAT IS CLAIMED IS:

1. A power supply system which generates supply electric power, comprising:

5 a fuel charged portion in which a power generation fuel is charged;

power generating means for generating power generation electric power by using the power generation fuel;

10 output controlling means for operating or stopping the power generating means; and

start-up controlling means for supplying start-up electric power used for operating the output controlling means to the output controlling means.

15 2. The power supply system according to claim 1, wherein the start-up controlling means supplies electric power independent from the operation of the power generating means to the output controlling means as the start-up electric power at the time of starting up the power generating means, and supplies electric
20 power based on the power generation electric power generated by the power generating means to the output control portion as the start-up electric power after starting up the power generating means.

25 3. The power supply system according to claim 1, wherein the start-up controlling means includes switching means for switching supply paths of the start-up electric power to the output controlling means

at the time of starting up the power generating means
and after starting up the power generating means.

4. The power supply system according to claim 1,
wherein the start-up controlling means includes a
5 start-up power supply portion which holds predetermined
electric power independently from the operation of the
power generating means, and supplies the electric power
from the start-up power supply portion to the output
controlling means as the start-up electric power at the
10 time of starting up the power generating means.

5. The power supply system according to claim 4,
wherein the start-up power supply portion includes
a primary cell.

6. The power supply system according to claim 4,
15 wherein the start-up power supply portion includes
electric power charged and held by electric power
supplied from the outside of the power supply system
prior to the start-up operation of the power generating
means.

20 7. The power supply system according to claim 1,
wherein the start-up controlling means includes an
auxiliary electric power holding portion which charges
a part of the power generation electric power generated
by the power generating means, and supplies charge
25 electric power of the auxiliary electric power holding
portion to the output controlling means as the start-up
electric power after starting up the power generating

means.

8. The power supply system according to claim 1, wherein the power generating means includes a fuel cell which generates the power generation electric power by
5 an electrochemical reaction using the power generation fuel supplied from the fuel charged portion.

9. The power supply system according to claim 8, wherein the fuel cell is a fuel reforming type fuel cell including a fuel reformer which reforms the power
10 generation fuel and extracts a specific component, a fuel electrode to which the specific component is supplied, and an air electrode to which oxygen in air is supplied.

10. The power supply system according to claim 1,
15 wherein the fuel charged portion is detachably constituted.

11. The power supply system according to claim 1, wherein the power supply system is modularized and configured in such a manner that a physical outside
20 shape of the power supply system has a shape and dimensions equivalent to those of one of various kinds of general-purpose chemical cells.

12. The power supply system according to claim 11,
25 wherein the power supply system has a double-electrode terminal structure.

13. An electronic device being connected to the power supply system according to claim 1 and comprising

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a load which operates with the supply electric power supplied from the power supply system.

14. The electronic device according to claim 13, wherein parts except the fuel charged portion in the power supply system are integrally constituted with respect to the electronic device.

15. The electronic device according to claim 13, wherein the power supply system is modularized and at least the fuel charged portion is detachably constituted with respect to the electronic device.

16. A power supply system which generates supply electric power, comprising at least:

a fuel charged portion in which a power generation fuel is charged;

power generating means for generating power generation electric power by using the power generation fuel;

electric power holding means for holding electric charge based on the power generation electric power generated by the power generating means; and

system controlling means for controlling the operation or stop of the power generating means and charge or stop of the electric power holding means in accordance with a change in the held electric power.

17. The power supply system according to claim 16, wherein the power generating means includes a fuel cell which generates the power generation electric power by

an electrochemical reaction using the power generation fuel supplied from the fuel charged portion.

18. The power supply system according to claim 17, wherein the fuel cell is a fuel reforming type fuel cell including a fuel reformer which reforms the power generation fuel and extracts a specific component, a fuel electrode to which the specific component is supplied, and an air electrode to which oxygen in air is supplied.

19. The power supply system according to claim 16, wherein the electric power holding means is constituted by one or more capacitance elements.

20. The power supply system according to claim 16, wherein the electric power holding means has a structure that a plurality of capacitance elements are connected with a predetermined relationship.

21. The power supply system according to claim 16, further including supply electric power generating means for generating the supply electric power, based on held electric power held in the electric power holding means.

22. The power supply system according to claim 21, wherein the supply electric power generating means includes voltage converting means for generating the supply electric power having a predetermined voltage from the held electric power in the holding means.

23. The power supply system according to claim 16,

wherein the fuel charged portion is detachably constituted.

24. The power supply system according to claim 16, wherein the system controlling means includes at least:

5 output controlling means for operating or stopping the power generating means by controlling supply or shutoff of the power generation fuel to power generating means;

10 a voltage monitor/control portion which outputs a first control signal which monitors a voltage component of held electric power in the electric power holding means and controls start-up and stop of the power generating means in accordance with a change in the voltage component, and a second control signal
15 which controls charge or stop with respect to the electric power holding means; and

20 start-up controlling means for controlling supply of start-up electric power used for operating the output controlling means and controlling an operation state of the power generating means based on at least the first control signal from the voltage
25 monitor/control portion.

25. The power supply system according to claim 24, wherein the voltage monitor/control portion at least
25 outputs the first control signal used for controlling the power generating means to stop when a voltage of held electric power in the electric power holding means

has reached a predetermined upper limit value, and the first control signal used for controlling the power generating means to start up when a voltage of held electric power in the electric power holding means has reached or become lower than a predetermined lower limit value.

26. The power supply system according to claim 24, wherein the start-up controlling means supplies a part of held electric power in the electric power holding means to the output controlling means, as the start-up electric power, when starting up the power generating means.

27. The power supply system according to claim 16, wherein the power supply system is modularized and, a physical outside shape of the power supply system has a shape and dimensions equivalent to those of one of various kinds of general-purpose chemical cells.

28. The power supply system according to claim 27, wherein the power supply system has a double-electrode terminal structure.

29. An electronic device being connected to the power supply system according to claim 16 and comprising a load which operates with the supply electric power.

30. The electronic device according to claim 29, wherein parts except the fuel charged portion in the power supply system are integrally constituted with

respect to the electronic device.

31. The electronic device according to claim 29, wherein the power supply system is modularized and, at least the fuel charged portion is detachably

5 constituted with respect to the electronic device.